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TWG003
NBR002
~~O P 130300Z~~
FM 6595 AEROSPACE TEST WG VANDENBERG AFB CALIF
TO SSD LOSA CALIF
6594 AEROSPACE TEST WG SUNNYVALE CALIF
LOCKHEED MISSILES AND SPACE COMPANY SUNNYVALE CALIF
LOCKHEED MISSILES AND SPACE COMPANY VANDENBERG AFB CALIF/ZEN/
DOUGLAS AIRCRAFT COMPANY VANDENBERG AFB CALIF/ZEN/
INFO 1STRATAEROSPACEDIV VANDENBERG AFB CALIF/ZEN/
6555 AEROSPACE TEST WG PATRICK AFB FLORIDA
AFLC WRITHT PATTERSON AFB OHIO
SBAMA NORTON AFB CALIF
DET 1 AFLC VANDENBERG AFB CALIF/ZEN/
CSD #1 VCMR VAFB CALIF/ZEN/
BT
~~S-E-C-R-E-T~~ FROM VWZD-12-12-238-S PRESTO FLASH
SECTION ONE OF TWO
SSD FOR SSZD SEMCLN 6594TW FOR COL MOORE SEMCLN LMSC/SUNNYVALE
FOR TWRCA-3/H.J. DREIFUSS/SEMCLN LMSC/VAFB FOR DEPT 65-44 SEMCLN
DAC/VAFB FOR MR HECKMAN. INFO CLN 1STRATAEROSPACEDIV FOR COMMAND
POST AND WDOPO SEMCLN AFLCSG/VAFB FOR MR YOUNG SEMCLN 6555TW
FOR COL WIGNALL SEMCLN SBAMA/NORTON AFB FOR SBVP SEMCLN
AFLC/WRIGHT PATTERSON AFB FOR MCGO. SUBJECT CLN FLASH REPORT
ON THE LAUNCHING OF DISCOVERER 36.
1. DISCOVERER 36 CONSISTING OF THOR BOOSTER NO. 325 AND
AGENA B ORBITAL STAGE NO. 1119 WAS LAUNCHED FROM VAFB COMPLEX

CLASSIFICATION CHANGED TO
[redacted]
By Authority of AFR 205-2
15 APR 1966

[redacted]

PAGE TWO VAFB

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PAD 4 AT 1240.21 PST ON 12 DEC 1961.
THE PRIMARY LAUNCH OBJECTIVE, TO PLACE THE DISCOVERER SATELLITE WITH PAYLOAD IN A NEAR-POLAR ORBIT, WAS ACCOMPLISHED. READINGS FROM VTS RADAR PLOTTING BOARD GAVE AN INJECTION ALTITUDE OF 158 STATUTE MILES, AN INJECTION VELOCITY SLIGHTLY ABOVE NOMINAL AND AN INJECTION FLIGHT PATH ANGLE OF ABOUT PLUS 0.5 DEG. TRACKING STATIONS AT KODIAK AND HAWAII HAVE CONFIRMED ORBITAL STATUS THROUGH RECEPTION OF TELEMETRY AND RADAR BEACON SIGNALS ON THE FIRST ORBITAL PASS.

2. PRELIMINARY EVALUATION INDICATES THAT LAUNCH TEST OBJECTIVES WERE ACHIEVED AS FOLLOWS CLN /REF. DETAILED TEST OBJECTIVES, LMSD 446404CMM SECTION 2/.

A. DISCOVERER BOOSTER - OBJECTIVE ACHIEVED
AT BOOSTER CUTOFF VEHICLE POSITION WAS WITHIN A SPHERE OF 5,. RADIUS, FLIGHT PATH ANGLE WAS WITHIN PLUS 4 DEG, AND VELOCITY WAS WITHIN 500 FPS OF THE NOMINAL VALUE. BOOSTER STEERING AND EVENT COMMANDS WERE GENERATED AND TRANSMITTED SATISFCTORILY BY THE GROUND GUIDANCE SYSTEM AN DVŒHICLE RESPONSE TO THE COMMANDS APPEARS TO HAVE BEEN PROPER. MECO OCCURRED AT T PLUS 149.2 SEC AS A RESULT OF COMMAND FROM GROUND

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AGE THREE VAFB
UIDANCE SYSTEM.
ERNIER ENGINE SOLO OPERATION LASTED 9.1 SEC WITH VECO OCCURRING T PLUS 158.3 SEC. SEPARATION WAS INITIATED BY A GROUND GUIDANCE OMMAND AT T PLUS 164.7 SEC. GROUND GUIDANCE SYSTEM DATA INDICATE HE BOOSTER COAST APOGEE ALTITUDE WAS 123.5 NM /NOMINAL CLN 123.4 NM/ ND THE BOOSTER COAST APOGEE ~~VELOCITY WAS 9500~~ FPS /NOMINAL CLN 9513 FPS/.

AGENA AIRFRAME AND ADAPTER -OBJECTIVE ACHIEVED
O EVIDENCE OF STRUCTURAL PROBLEMS IN THE AGENA AIRFRAME R ADAPTER HAS BEEN NOTED. THE RETRO-ROCKETS SATISFACTORILY PROVIDED HE THRUST NECESSARY FOR COMPLETE SEPARATION BY T PLUS 167.1 SEC.

. AGENA PROPULSION SYSTEM-OBJECTIVE ACHIEVED
GENA ENGINE IGNITION OCCURRED IN A NORMAL MANNER T T PLUS 204.0 SEC AND THE ENGINE OPERATED SATISFACTORILY FOR 237.1 EC. ENGINE SHUTDOWN OCCURRED AT T PLUS 441.1 SEC ON INTEGRATOR OMMAND. THE INTEGRATOR DATA SHOW A SENSIBLE ELOCITY GAIN OF 16,208 FPS DURING ORBITAL STAGE BOOST. THE IMPLUSE ROVIDED BY THE AGENA ENGINE WAS SUFFICIENT TO GIVE THE VEHICLE RBITAL VELOCITY AT THE FLIGHT INJECTION ALTITUDE.

AGENA ELECTRICAL POWER SYSTEM-OBJECTIVE ACHIEVED

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AGE FOUR VAFB
O EVIDENCE OF AGENA ELECTRICAL POWER SYSTEM PROBLEMS
AS BEEN NOTED.
. AGENA GUIDANCE AND FLIGHT CONTROL SYSTEM-OBJECTIVE
CHIEVED.
HE AGENA GUIDANCE SYSTEM RESPONDED PROPERLY TO A
.86 SEC TIME-TO-FIRE CORRECTION AND A 2.90 SEC VELOCITY-
O-BE-GAINED CORRECTION COMMANDED BY THE GROUND GUIDANCE SYSTEM.
EHICLE ATTITUDE APPEARS TO HAVE BEEN CONTROLLED SATISFACTORILY DURING
HE COAST PHASE AND THE ORBITAL BOOST PHASE, AND CONTROL GAS EXPEND-
TURE ~~WAS NORMAL DURING BOTH OF THOSE PERIODS. ENGINE SHUTDOWN WAS~~
OMMANDED SATISFACTORILY BY THE INTEGRATOR, AND THE D-TIMER PROPERLY
ONTROLLED THE TIME AND SEQUENCE OF ALL PROGRAMMED EVENTS THAT
ERE SCHEDULED TO OCCUR PRIOR TO LOSS OF TELEMETERED DATA AT VTS.
. AGENA SPACE COMMUNICATIONS SYSTEM-OBJECTIVE ACHIEVED
PERATION OF THE ACQUISITION BEACON AND THE RADAR BEACON WAS
ATISFACTORY. VTS TRACKED THE ACQUISITION BEACON FROM LIFTOFF TO
PLUS 504 SEC AND THE RADAR BEACON FROM LIFTOFF TO T PLUS 484 SEC.
T T PLUS 516E SEEC CMM THE TIME OF THE TELEMETRY DATA FADE FOR BTS CMMA
ELEMETRY CHANNELS WERE OPERATING. AT THIS TIME THE ORIBITAL TIMER
AS SET AT 5465 SECCMN IN THE RESET-ON POSITION CMM IN THE INCREASE
C LINE EIGHTEEN LAST TWO GROUP CCM ALL REPEAT CMM ALL

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AGE FIVE VAFB
ODE CMM AND ALTERNATE RE-ENTRY DISARM STATE. NO GROUND
OMMANDS WERE SENT DURING THE ASCENT PHASE.
. AEROSPACE GROUND EQUIPMENT-OBJECTIVE ACHIEVED
OOSTER AND ORBITAL STAGE CHECKOUT WAS SATISFACTORILY
CCOMPLISHED DURING THE PRE-LAUNCH COUNTDOWN BY THE AEROSPACE
ROUND EQUIPMENT. HOWEVER SEVERAL PROBLEMS OCCURRED.
URING TASK 4 /DESTRUCT CHECKS/ THE SECONDARY RANGE SAFETY
RANSMITTER MALFUNCTIONED. DESTRUCT CHECKS AND LAUNCH WERE COMPLETED
ITH THE PRIMARY TRANSMITTER.
URING TASK 14 /ORBITAL STATE PROPELLANT TANKING/ A SLIGHT LEAK DEVELOPED
N THE AGENA MAST ACID TRANSFER LINE, ALLOWING ACID TO DRIP ONTO THE
AD. THE LEAKAGE RATE WAS INSUFFICIENT TO PLACE LOADING OUT OF SPECI-
ICATION AND TUS THE LOADING WAS CONTINUED. ATER COMPLETION OF TANKING
HE ACID LINE WAS DRAINED TO PREVENT FURTHER LEAKAGE.
BLOCKHOUSE CONSOLE INDICATION OF LOW AGENA CONTROL GAS PRESSURE
AS DETERMINED TO BE ERRONEOUS DURING A HOLD REQUIRED FOR RANGE
LEARANCE STARTING AT1200 PST. PAD AND TELEMETRY MEASUREMENTS OF THIS
RESSURE INDICATED THE CONTROL GAS SPHERES TO BE PROPERLY PRESSURIZED
. DISCOVERER SYSTEM FACILITIES-OBJECTIVE ACHIEVED
HE AGENA TELEMETRY SIGNAL WAS RECEIVED AND RECORDED BY
T
3/0330Z DEC VAFB

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6595 AEROSPACE TEST WG VANDENBERG AFB CALIF
SSD LOSA CALIF
594 AEROSPACE TEST WG SUNNYVALE CALIF
OCKHEED MISSILES AND SPACE COMPANY SUNNYVALE CALIF
OCKHEED MISSILES AND SPACE COMPANY VANDENBERG AFB CALIF/ZEN/
OUGLAS AIRCRAFT COMPANY VANDENBERG AFB CALIF/ZEN/
NFO 1STRATAEROSPACEDIV VANDENBERG AFB CALIF/ZEN/
555 AEROSPACE TEST WG PATRICK AFB FLORIDA
[illegible] WRIGHT PATTERSON AFB OHIO
[illegible] NORTON AFB CALIF
~~[illegible] 1 AFLC VANDENBERG AFB CALIF/ZEN/~~
SD #1 WGMR VAFB CALIF/ZEN/
T
~~S E C R E T~~ VWED-1212-356-5 . SECTION TWO OF TWO.
[illegible] FROM LIFTOFF TO T PLUS 519 SEC AND GOOD FLIGHT DATA WERE
[illegible]D FOR THE PERIOD FROM LIFTOFF TO T PLUS 516 SEC. THE VTS
[illegible]T RADAR PRODUCED GOOD ANALOG AND DIGITAL DATA RECORDS FOR THE
[illegible]OD FROM LIFTOFF TO LOSS OF TRACK AT T PLUS 464 SEC. STATION COMM-
NICATIONS DURING THE LAUNCH OPERATION WERE ADEQUATE.
3. PRE-LAUNCH COUNTDOWN
THE COUNTDOWN STARTED AT 0335 PST ON 12 DEC. 1961 AND PROGRESSED TO
LIFTOFF WITH 3 HOLDS TOTALING 71 MINUTES BECAUSE OF RANGE CLEARANCE
PROBLEMS WITH TRAINS. HOLD 1 WAS IMPOSED AT 1036 PST /T-60 MINUTES/

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FOR A 45 MINUTE DURATION TO ADJUST LIFTOFF TIME FOR A 1209 LIFTOFF..
HOLD 2 WAS IMPOSED AT 1206 PST /T-15 MINUTES/ FOR A 20 MINUTE DURATION
AND HOLD 3 WAS IMPOSED DURING TERMINAL COUNT AT 1232 PST FOR A 6 MINUTE
DURATION.
4. PAD DAMAGE
DAMAGE TO THE PAD EQUIPMENT AND FACILITIES WAS NORMAL, AND THE
REHABILITATION WORK IS EXPECTED TO BE SIMILAR TO THAT AFTER PREVIOUS
LAUNCHES FROM THIS PAD. SCF-4.
BT
13/0343Z DEC VAFB

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DOWNGRADED AT 3 YEAR INTERVALS;
DECLASSIFIED AFTER 12 YEARS
DOD DIRECTIVE 5200.10